

**What is claimed is:**

1. Method for measuring ultrahigh vacuum by means of an ultrahigh-vacuum cold cathode pressure gauge, characterized in that the voltage on the anode of the pressure cell varies with pressure in such a way that the ion current flow is maintained at its maximum value at all times, wherein the voltage-controlled source preliminarily scans the whole voltage range, preferably between 1 kV and 12 kV, in a short time, and subsequently sets the source to the voltage, at which the current was at its maximum value.

2. Method for measuring ultrahigh vacuum by means of an ultrahigh-vacuum cold cathode pressure gauge, characterized in that the voltage on the anode of the pressure cell varies with pressure in such a way that the ion current flow is maintained at its maximum value at all times, wherein the voltage-controlled source, based on the calibration of the gauge, will set the voltage, for a given pressure, to the value that has been previously stored as optimal.

3. Device for measuring ultrahigh vacuum, wherein the said device is an ultrahigh-vacuum cold cathode pressure gauge, characterized in that the anode (1) of the pressure gauge cell is connected to a voltage-controlled source (3), said source, in turn, being controlled in such a manner that the output voltage of the voltage-controlled source (3) varies with pressure so as to maintain the ion current at its maximum level at all times.

4. Device according to Claim 3, characterized in that the voltage-controlled source (3) by means of the gauge preliminarily scans the whole voltage range, preferably between 1 kV and 12 kV, in a short time, and subsequently sets the source to the voltage, at which the current was at its maximum value.

5. Device according to Claim 3, characterized in that, based on the calibration of the gauge, a computerized source (3) is employed, which will set the voltage, for a given pressure, to the value that has been previously stored as optimal.

5           6. Device according to Claims 3 to 5, characterized in that the pressure gauge cell is a magnetron pressure gauge cell.

7. Device according to Claims 3 to 5, characterized in that the pressure gauge cell is an inverted magnetron pressure gauge cell.

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8. Device according to Claims 3 to 5, characterized in that the pressure gauge cell is a Penning pressure gauge cell.